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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/769,594	01/25/2001	Hang Jin	SAMS01-00135	4401

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EXAMINER

NG, CHRISTINE Y

ART UNIT PAPER NUMBER

2663

DATE MAILED: 03/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/769,594

Applicant(s)

JIN ET AL.

Examiner

Christine Ng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 19-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 19-38 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because in Figure 3, RF receiver 311 is referred to as RF receiver 310 in the specifications (page 15, lines 13-14) and hub unit 312 is referred to as hub unit 314 in the specifications (page 15, line 14). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 19, 26 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,230,021 to Ohdachi in view of U.S. Patent No. 5,839,071 to Johnson, and in further view of U.S. Patent No. 6,621,810 to Leung.

Ohdachi disclose in Figure 2 for use in a wireless network comprising a plurality of base stations (CS 10) capable of communicating with a plurality of mobile stations (PS 60) in a coverage area of said wireless network, an apparatus (in CS 10) for synchronizing a first one of said plurality of base stations comprising (Figure 3):

A transceiver (IF 20) capable of receiving a data stream from a network (telephone network) that transfers data between said plurality of base stations. Refer to Column 3, lines 47-49 and Column 4, lines 11-13.

A clock recovery circuit (components 102-105) capable of receiving said data stream and generating therefrom a master clock signal (clock c). Refer to Column 3, line 11 to Column 4, line 2. The master clock signal is used to synchronize at least one of:

A RF transmitter portion (TX 107) of said first base station capable of transmitting a forward channel signal to a first one of said plurality of mobile stations. Refer to Column 3, line 66 to Column 4, line 2.

A RF receiver portion (none) of said first base station capable of receiving a reverse channel from said first mobile station.

Although Ohdachi does not specifically disclose a RF receiver portion of the first base station, the base station CS is used for uplink and downlink communication with the mobile stations PS. For example, Johnson discloses in Figure 12 a base station consisting of transmitters 118 and receivers 116 to provide communication with mobile stations. Refer to Column 9, lines 1-43. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a RF receiver portion of the first base station, the motivation being so that the base station can receive information from the mobile stations.

Ohdachi also does not disclose that the transceiver is a gigabit Ethernet transceiver and the data stream is a gigabit Ethernet data stream and the network is a gigabit Ethernet network.

Leung discloses that very high-speed interfaces such as a gigabit Ethernet interface can be used on routers in wireless systems to control sending and receiving packets among nodes such as base stations and mobile units. Refer to Column 13, lines 40-60. Gigabit Ethernet is an Ethernet protocol used in local area networks that offers a high data transmission rate of one gigabit per second. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the transceiver is a gigabit Ethernet transceiver and the data stream is a gigabit Ethernet data stream and the network is a gigabit Ethernet network, the motivation being that gigabit Ethernet provides a very high data rate for faster data transmission than other Ethernet standards.

4. Claims 20-22, 27-29 and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,230,021 to Ohdachi in view of U.S. Patent No. 5,839,071 to Johnson in view of U.S. Patent No. 6,621,810 to Leung, and in further view of U.S. Patent No. 6,118,399 to Krone.

Referring to claims 20, 27 and 35, Ohdachi does not disclose that the master clock signal is used to synchronize at least one of an ADC circuit in said first base station and a DAC circuit in said first base station.

Krone discloses in Figure 6 a circuit for implementing DAC and ADC conversion in which a clock input from oscillator 107 synchronizes ADC 134 to DAC 136. Refer to Column 7, line 31 to Column 8, line 13. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the master clock signal is used to synchronize at least one of an ADC circuit in said first base station and a DAC circuit in said first base station, the motivation being that a base station must include ADC and DAC circuits in order to perform conversion of analog user speech into digital data for transmission across the air interface; synchronization of the ADC and DAC circuits prevents data loss between the communicating endpoints.

Referring to claims 21, 28 and 36, refer to the rejection of claim 22, 29 and 37. Although Ohdachi does not specifically disclose a receiver local oscillator assigned with a RF receiver portion of the first base station, the base station CS is used for uplink and downlink communication with the mobile stations PS, so it would be obvious to include receiver components along with transmitter components in the CS. Refer to the rejection of claims 19, 26 and 34.

Referring to claims 22, 29 and 37, Ohdachi discloses that the master clock signal (clock c) is used to synchronize a transmitter local oscillator (VCXO 105) associated with said RF transmitter portion (TX 107) of said first base station. Refer to Column 3, lines 52-55.

5. Claims 23-25, 30-32 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,230,021 to Ohdachi in view of U.S. Patent No. 5,839,071 to Johnson in view of U.S. Patent No. 6,621,810 to Leung, in view of U.S. Patent No. 6,118,399 to Krone, and in further view of U.S. Patent No. 6,307,905 to Agazzi.

Referring to claims 23 and 30, refer to the rejection of claims 24 and 31.

Referring to claims 24 and 31, Ohdachi discloses that the master clock signal is used to synchronize said gigabit Ethernet transceiver.

However, Ohdachi does not disclose that the master clock signal is used to synchronize *an Ethernet transmitter portion or Ethernet receiver portion* of said gigabit Ethernet transceiver.

Agazzi discloses in Figure 4 a gigabit Ethernet transceiver with an Ethernet transmitter portion (TX 410/420) and a Ethernet receiver portion (RX 412/422), which are synchronized to their respective clocks GTX\_CLK 415, GTX\_CLK 425, RX\_CLK 419 and RX\_CLK 429. The receiver clock of one gigabit transceiver is synchronized to the transmit clock of the other gigabit transceiver. Refer to Column 1, line 36 to Column 2, line 9 and Column 9, lines 15-60. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the master

clock signal is used to synchronize *an Ethernet transmitter portion or Ethernet receiver portion* of said gigabit Ethernet transceiver, the motivation being so that the receiver of one gigabit transceiver can properly receive the data transmitted by the transmitter of the other gigabit transceiver.

Referring to claims 25 and 32, Ohdachi discloses that the clock recovery circuit (components 102-105) comprises a phase-locked loop capable of receiving said gigabit Ethernet data stream and generating said master clock signal (clock c). Refer to Column 3, lines 47-50.

Referring to claim 38, refer to the rejection of claims 23 and 30 and claims 24 and 31.

6. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,230,021 to Ohdachi in view of U.S. Patent No. 5,839,071 to Johnson in view of U.S. Patent No. 6,621,810 to Leung in view of U.S. Patent No. 6,118,399 to Krone in view of U.S. Patent No. 6,307,905 to Agazzi, and in further view of U.S. Patent No. 6,480,483 to Yahata et al.

Ohdachi does not disclose that the gigabit Ethernet data stream is transmitted by a second of said plurality of base stations, wherein said second base station comprises a GPS receiver that synchronizes transmission of said gigabit Ethernet data stream.

Yahata et al disclose in Figure 5 a second of a plurality of base stations (master base station (CS1, CS2..)) that comprises a reference frame timing signal generating device 40 that receives time information from a GPS and generates a frame timing signal as a reference at a predetermined time. The reference frame timing is used by



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slave base stations (CS100, CS200...) for synchronization. Refer to Column 12, line 66 to Column 13, line 8. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the gigabit Ethernet data stream is transmitted by a second of said plurality of base stations, wherein said second base station comprises a GPS receiver that synchronizes transmission of said gigabit Ethernet data stream, the motivation being so that one master base station can provide an accurate GPS reference timing for the other slave base stations.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Ng whose telephone number is (571) 272-3124. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. Ng   
March 14, 2005

  
RICKY NGO  
PRIMARY EXAMINER